REMARKS/ARGUMENTS

The Office Action mailed March 18, 2008 has been received and the Examiner's comments carefully reviewed. Claims 1-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-3 and 5-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forecast et al. (U.S. Patent No. 6,230,200) (hereinafter "Forecast") in view of Ballard (U.S. Patent No. 6,078,960). Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forecast in view of Ballard ,further in view of Haugseth et al. (U.S. Patent No. 6,856,619) (hereinafter "Haugseth"). The Applicants present the following for consideration.

Rejections Under 35 U.S.C. 101

Claims 1-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Applicants have amended the claims to place them in a clearly statutory category by using the generic example of a proper computer program product claim as recited in the Office Action. Additionally, the Applicants have clarified that a server computing device rebalances resources for a client computing device which is clearly a tangible result. The Applicants respectfully request the rejections be withdrawn.

Rejections Under 35 U.S.C. 103(a)

Claims 1-3 and 5-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forecast et al. (U.S. Patent No. 6,230,200) (hereinafter "Forecast") in view of Ballard (U.S. Patent No. 6,078,960). Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Forecast in view of Ballard further in view of Haugseth et al. (U.S. Patent No. 6,856,619) (hereinafter "Haugseth").

With regard to Claim 1, the Office Action states that the references disclose "a server component configured to receive from a client information that indicates the client needs additional resources to perform a transaction, the server component being further configured to determine if allocating to the client the additional resources puts the server component in a resource constrained situation, and if so, to rebalance resources currently allocated to a plurality of existing clients; (Forecast. Column 3, Lines 14-20. "The allocation balancing routine.., allocating or de-allocating an amount of resources...". Column 13, Line 15- Column 14, Line 30, "scheduler" and "admission control policy". Column 64, recited allocation code snippet) Forecast does not explicitly recite the client side load balancing aspect recited in the claim as wherein each of the clients maintains information about the state of its allocated resources and pending transactions including a current number of outstanding transaction requests and a maximum number of transactions available. However Ballard discloses client side load balancing (Ballard. Abstract, "Load balancing is achieved at the client side.")."

As amended, Claim 1 recites in part "receiving from a client computing device at a server component on a server computing device information that indicates the client needs additional resources to perform a transaction, wherein the information received from the client includes a hint about a number of transactions that are currently pending on the client that exceed a maximum number of transactions available limit that was previously negotiated; the server component being further configured to determine if allocating to the client the additional

resources puts the server component in a resource constrained situation, and if so, to rebalance resources currently allocated to a plurality of existing clients; wherein each of the clients is a computing device that maintains information about the state of its allocated resources and pending transactions including a current number of outstanding transaction requests; the maximum number of transactions available; and the number of requests that cannot be sent because the current number of outstanding transaction requests equals the maximum number of transactions available, wherein the maximum number of transactions available to each client is initially determined when each of the clients connects to the server at which point a negotiation is performed between the client and the server to establish the maximum number of transactions; wherein the maximum number of transactions specifies a number of transaction requests to be accepted by the server from the client; wherein when the resources are rebalanced by the server by issuing messages to any affected clients to either reduce or increase their maximum transaction available limit." Support for the amended claim recitations may be found with respect to pages 7 and 8 and Figure 4 of the Applicants' specification. Among other differences, the cited references do not teach that the negotiation of the transactions available limit between a client and a server or the information stored on the client that is sent to the server to use in determining when to rebalance resources.

Instead, Forecast is directed at allocated resources in a file server through the use of a dynamic model. In the Abstract, Forecast states that "Resources in a file server are allocated by dynamically modeling a configuration of data handling components in the file server and routings of data streams through the data handling components. The dynamic model is a computer model maintained in memory by a controller of the file server. For example, the

dynamic model is a directed acyclic graph in which nodes represent the data handling components and edges represent data stream paths. Each node has a list of resources and current allocations of the resources. Associated with each active data stream is a list of pointers to the nodes and current allocations for the data stream." Merely balancing resources, however, does not teach the recitations of Claim 1. As recited by the Office Action, Forecast does not teach the client side load balancing aspect recited in the claim. Additionally, Ballard does not teach the functions performed by the client according to Claim 1. In order to clarify the functions performed on the server and the client, however, Claim 1 was amended to include more specificity. For instance, Claim 1 teaches that the client and server perform a negotiation to determine an initial number of transactions available to the client and that when the client exceeds the allocated resources it provides an indication to the server how many transactions are currently pending on the client that cannot be executed until the client's transaction limit is adjusted by the server. None of the cited references teach this interaction. Additionally, Ballard does not teach the client side aspect of the presently claimed invention. Instead, Ballard teaches that "load balancing of client demand is achieved at the client side of the network connection in software, rather than at the server side. Each client computer receives a load balance list, enumerating varying, respective addresses of multiple server computers storing a common set of data. Each client computer executes a server selection function to determine which server to access. According to one aspect of the invention, the same data is available from each one of a plurality of server computers having differing addresses. The client computer performs the server selection function to determine which server is to be addressed to access the data. All server requests (to participating servers) are handled by the server selection function, unless a prior

selection has already been made for the current session, day or other unit of time or access." (col. 1 , lines 44-58). In other words, Ballard teaches that the balancing is performed on the client. This is significantly different from Claim 1. In Claim 1, the server rebalances the resources based on information received from the client. Since none of the cited references teach negotiating a transaction limit or providing the number of transactions currently pending on the client that exceed this limit or storing the information on the client, Claim 1 is proposed to be allowable. Claims depending on Claim 1 are proposed to be allowable as none of the cited references teach their recitations and since they depend on a valid base claim.

Claim 13, as amended, recites in part "receiving a transaction request message on the server computing device from the client; wherein the transaction request message received from the client includes the number of transactions that are pending due to an unavailability of sufficient resources to handle the transactions that was previously negotiated; wherein the number of resources available to the client that are stored in the credit limit field is a maximum number of transactions available to the client that is initially determined when the client connects to the server at which point a negotiation is performed between the client and the server to establish the maximum number of transactions; and wherein the server rebalances resources when the transaction request places the server in a resource constrained situation; wherein when the resources are rebalanced, the server issues messages to any affected clients to either reduce or increase their maximum number of transactions that are available." Claim 13, and claims depending from Claim 13, are proposed to be allowable for at least the reasons presented above.

Claim 18, as amended, recites in part "a server component configured to: receive information from a client that indicates the client needs additional resources to perform a transaction; wherein the information received from the client includes a number of transactions that are that are pending due to an unavailability of sufficient resources to handle; wherein the number of transactions was previously negotiated; and to rebalance resources currently allocated to the client; wherein when server issues messages to any affected clients when the resources are rebalanced by the server; wherein the messages indicate to either reduce or increase each of the affected clients number of resources. wherein the client maintains information about the state of its allocated resources and pending transactions within a data structure, comprising: a credits used field that identifies a number of resource credits currently in use by a client corresponding to the data structure; a credit limit field that identifies a number or resources available to the client; wherein the number of resources available to the client is initially determined when the client connects to the server at which point a negotiation is performed between the client and the server to establish the number of resources." Claim 18, and claims depending from Claim 18, are proposed to be allowable for at least the reasons presented above.

Claim 19, as amended, recites in part "computing a total number of client connections, each client connection being associated with a client connected to a server, each client having a credit limit that identifies a number of resources that are allocated to the client; wherein the number of resources that are available to client is initially determined when the client connects to the server at which point a negotiation is performed between the client and the server to the number of resources; wherein the client maintains information about the state of its allocated resources including a current number of outstanding credits used and a maximum number of

credits available; computing a total number of pending requests on each client device that identifies a number of transaction requests that are not being handled due to a limitation on resources; computing a total number of credits in use; and if the total number of pending requests and the total number of credits in use combined exceeds a total number of available resources, calculating on the server a new credit limit for each of the clients connected to the server; reallocating the total available resources in accordance with the new credit limits; and issuing messages to affected clients indicating to either reduce or increase their negotiated number of resources." Claim 19, and claims depending from Claim 19, are proposed to be allowable for at least the reasons presented above.

Conclusion

In view of the foregoing amendments and remarks, all pending claims are believed to be allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the applicant at the telephone number provided below.

Respectfully submitted,

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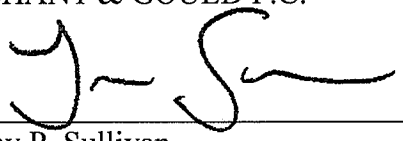

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